CLAIMS

1.

Variable Wavelength Impulse Transmission method wherein data is sent without carrier wave, by using short variable wavelength radio impulses that are of one-cycle form. The space of the used wavelengths of the impulses consists of either A) a predetermined number of clearly separable wavelengths, or B) infinite number of wavelengths between predetermined minimum and maximum wavelengths. Data is encoded into the transmission by choosing an appropriate impulse wavelength according to the value of sequence of bits of data to be sent. In the transmission the time is divided in time axis to equal length intervals t, each of them carrying single impulse, the center of the impulse being at distance td from the center of the interval t. The distance td is either negative (the center of impulse is before the interval's center, within the interval), or positive (the center of impulse is on or after the interval's center, within the interval). The cue of impulses in transmission is divided into transmission channels either A) by taking every nth impulse for a single channel, or B) by setting a predetermined order path according to which the impulses are picked for each channel.

In impulse receiving process of said transmission system, impulses are distinguished either A) by determining the wavelength of each transmission impulse from the time difference between its positive and negative amplitude maximums, or B) by setting an own reception channel for each wavelength of impulse. In case A the transmission impulse's distance td from the transmission interval's t center is zero. In case B the transmission impulse's distance td from the transmission interval's t center is different for each impulse, either negative (the center of impulse is before the interval's center), or positive (the center of impulse is on or after the interval's center). In case B each reception channel generates reception impulses that are of same wavelength, as with the impulses it is purported to receive. The reception impulses are repeated in the same intervals as the interval t of the said transmission system, the center of the reception impulse being at same distance td from the center of interval t as with the transmission impulse it is meant to detect. The reception of an transmission impulse is detected as an co-amplitude effect or peak impulse which the transmission impulse and reception impulse form when they meet each other. The transmission impulse's actual wavelength is recognized by comparing the peak impulses of different reception channels and finding the channel which has the greatest amplitude peak impulse. The channel

having it has the same wavelength of reception impulse as is the wavelength of the transmission impulse.

2.

Such transmission system as described in claim 1, having all parts of it, including the impulse distinguishing method in impulse receiving process, with the exception that instead of radio impulses, the used impulses are electric impulses in such transmission system.

3.

Method for organizing wireless transmission traffic in wireless radio transmission data or voice communications, such communications using transmission system described in claim 1, wherein a single transmission channel is divided into several sub-channels by allocating different impulse wavelengths for different use if so needed. Impulse wavelengths are chosen for specific use according to the needed transmission power and the ability to pass obstacles of different wavelength impulses. The allocation is altered dynamically in real time to optimize best overall transmission traffic every moment, when needed.

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